

# Algebra Pretest

Grade: Eight  
Subject: Mathematics  
Date: May 19

1  $2t + 15$

- A two plus t minus 15
- ☒ B Double a number plus 15
- C Twice a number minus 15

2  $5 + b$

- A the quotient of 5 and b
- B the product of 5 and b
- ☒ C the sum of five and b

3 Nine less than 10 times a number

- A  $9y + 10$
- B  $10y + 9$
- C  $9 + 10y$
- ☒ D  $10y - 9$

4 The current temperature plus 17 degrees

- ☒ A  $t + 17$   
 B  $t - 17$   
 C  $17 + t$   
 D  $17 - t$

5  $3a + 2b + 5b$

- A  $10ab$   
 B  $10a$   
☒ C  $3a + 7b$   
 D  $15a + 2b$

You can only add variables that are the same. So the "b"s will add, but the 3a stays the same.

6  $8(y + 2) + 2y + 7$

- A  $9y + 6$   
 B  $9y + 20$   
 C  $3y + 17$   
☒ D  $10y + 23$

$8(y + 2)$  means 8 sets of  $(y + 2)$   
 So multiply 8 by  $y$  and then 8 by  $+2$   
 Combine with the rest of the expression and simplify by putting like variable together.  
 $8y + 16 + 2y + 7$   
 $10y + 23$

7  $136 = y - 113$

- A  $y = 23$   
☒ B  $y = 249$   
 C  $y = 123$   
 D  $y = 13$

8  $n + 1.2 = 13.2$

- ☒ A  $n = 12$   
B  $n = 14.4$   
C  $n = 14.5$   
D  $n = 11.9$

9  $m + 54 = 72$

- ☒ A  $m = 18$   
B  $m = 126$   
C  $m = 116$   
D  $m = 28$

10  $21.89 = x + 11.4$

- A  $x = 33.29$   
B  $x = 10.85$   
C  $x = 32.93$   
☒ D  $x = 10.49$

11  $6x = 48$

- ☒ A  $x = 8$   
B  $x = 7$   
C  $x = 252$   
D  $x = 9$

12  $1.2b = 3.6$

A  $b = 0.9$

B  $b = 10.89$

☒ C  $b = 3$

D  $b = 0.3$

13  $\frac{r}{7} = 1400$

☒ A  $r = 9800$

B  $r = 2800$

C  $r = 2100$

D  $r = 200$

14  $16 = \frac{m}{3}$

A  $m = 19$

B  $m = 5$

☒ C  $m = 48$

D  $m = 38$

15  $10x + 27 = 67$

$x = 4$

16  $4x + 5 = 17$

**$x = 3$**

17  $9c - 4 - c = 20$

**$c = 3$**

18  $40 = 14x + 3x - 7x$

**$x = 4$**

19  $2(x + 2) = 20$

**$x = 8$**

20  $\frac{x}{2} - 7 = 5$

$$x = 24$$

21  $-x + 7 = -5$

$$x = 12$$

22  $-7x + 5 = 33$

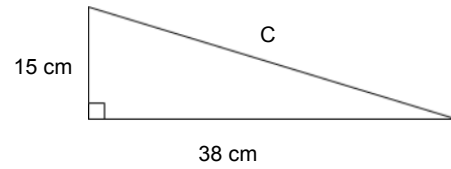
$$x = -4$$

- 23 Your friend had a party. She spent \$10 on a cake. It cost \$5 per guest for party treats. If she spent \$45 total on the party, how many guests did she have?

*Write an algebraic equation and solve, showing all steps in the solution. Enter your answer only.*

$$10 + 5g = 45$$
$$g = 7$$

- 24 Using only algebra, find the missing side of the right triangle. Round off to the nearest hundredth if necessary. Show all your work.



$$\begin{aligned}a^2 + b^2 &= c^2 \\15^2 + 38^2 &= c^2 \\225 + 1444 &= c^2 \\1669 &= c^2 \\\sqrt{1669} &= \sqrt{c^2} \\40.85 &= c\end{aligned}$$